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Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Air Force **Date:** April 2022

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0408011F / <i>Special Tactics / Combat Control</i>
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	-	7.457	6.640	6.297	0.000	6.297	9.177	9.348	9.545	9.758	Continuing	Continuing
675138: <i>ST System Development</i>	-	7.457	6.640	6.297	0.000	6.297	9.177	9.348	9.545	9.758	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Special Tactics (ST) System Development project focuses on modernization development for the Special Warfare Acquisition Growth and Refresh (SWAGR). SWAGR will develop, test, train, and modernize the existing and future Family of Systems (FoS) that provide a state-of-the-art Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) capability. It also provides a suite of systems for all Air Force Specialty Codes supporting the ST community within the Air Force Special Operations Command's (AFSOC's) Special Warfare operators. ST System Development focuses on reducing the risk of fratricide and substantially reducing size and weight of the equipment carried through various core capabilities, which include but are not limited to: Human Machine Interface (HMI), Line of Sight (LOS) targeting, medical monitoring, and Machine-to-Machine (M2M) C4ISR System and all other ST capability needs.

This program will develop and enhance technologies for Special Warfare ST operators to recognize, identify, range, nominate, and designate targets during both day and night operations. SWAGR will also significantly reduce the time required to find, track, fix targets, and engage the enemy by providing highly accurate target grid coordinates in three dimensions, generating target imagery both pre- and post-strike, and transmitting target data to Command and Control centers. SWAGR systems are light, compact, and portable for use by dismounted Special Warfare ST operators. FY23-23 SWAGR funding will provide significant improvements in operational capability, situational awareness, and precision lethality in the battle space while continuing to build and enhance the SWAGR family of systems. This may be conducted through industry technology demonstrations, prototypes, and associated engineering support to posture the SWAGR for technology insertion. These efforts will deliver enhanced capability for the dismounted soldier in terms of dramatic weight reduction and increase mission effectiveness across the conflict spectrum. SWAGR also supports AFSOC Tactical Command and Control (TAC C2) programs to develop and enhance communications systems and equipment essential for ST combat controllers, pararescue, combat weather operators, and tactical air controller parties within AFSOC to perform their mission. The ST operators use this equipment to gather and transmit assault zone suitability and weather data and to perform tactical airfield/assault landing/drop zone operations. Due to the rapidly changing threat environment, the acquisition program manager has the authority to redirect funding as necessary to meet current slated and emerging requirements. The above efforts may change based on the need to support current Air Force mission requirements.

SWAGR funding also supports innovation activities to include studies, analyses, requirements definition, and quick-reaction capability prototypes/demonstrations to accelerate planning for technology transition, technology insertion and future acquisition programs

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F,

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0606398F. In PY 1.016MM was expended for civilian pay expenses in this program element, and in CY 1.058M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	7.659	6.640	0.000	0.000	0.000
Current President's Budget	7.457	6.640	6.297	0.000	6.297
Total Adjustments	-0.202	0.000	6.297	0.000	6.297
• Congressional General Reductions	-0.202	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	6.297	0.000	6.297

Change Summary Explanation

The FY 2022 President's Budget submittal did not reflect FY 2023 through FY 2026 funding. Therefore, an explanation of the change between the two budget positions for FY2023 cannot be made in a relevant manner.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: Human Machine Interface (HMI)	1.799	1.768	1.600	0.000	1.600
Description: HMI is a system of systems that provides integrated operator interface between all the machine components by using unified visual and auditory displays and controls, such as head-mounted displays, tactical earplug connectivity with man pack or handheld communications, integrated tactical computing solution, and power generation and management systems.					
FY 2022 Plans:					
- support digitally aided combat close air support operations. Plan to develop and operate tests or full spectrum certification (Joint Interoperable Test Command (JITC), Air Force System Interoperability Test (AFSIT), and Authority to Operate (ATO)).					

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C. Accomplishments/Planned Programs (\$ in Millions)

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
<ul style="list-style-type: none"> - explore and define requirements for implementation of the Iridium waveform granting DoD dedicated airtime. - communications development: will upgrade HMI efforts which reduce the Size, Weight, and Power (SWAP) required to be carried by the Special Tactics Community. Specifically includes wireless technology. - require maturation of available technology for future dismounted communication contract in order to meet the requirements of the user. <p>FY 2023 Base Plans:</p> <ul style="list-style-type: none"> - Will continue to support digitally aided combat close air support operations. Plan to develop and operate tests or full spectrum certification (Joint Interoperable Test Command (JITC), Air Force System Interoperability Test (AFSIT), and Authority to Operate (ATO)). - Will continue to explore and define requirements for implementation of the Iridium waveform granting DoD dedicated airtime. - Will continue communications development: will upgrade HMI efforts which reduce the Size, Weight, and Power (SWAP) required to be carried by the Special Tactics Community. Specifically includes wireless technology. - Will require maturation of available technology for future dismounted communication contract in order to meet the requirements of the user. <p>FY 2023 OCO Plans:</p> <p>.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Current FY23 funding allows for the development to continue with the HMI effort for the Special Tactics CDD.</p>					
<p>Title: Line of Sight</p> <p>Description: Line of Sight (LOS) targeting enables the Special Warfare ST operators to find, fix, track, target and, engage the enemy at close range during day or night operations by providing highly accurate target coordinates in three dimensions. LOS generates vital imagery both pre and post-strike at a fraction of the weight and is more efficient than legacy equipment carried by the operator. Non Line of sight (XLOS) targeting device exploration and development will help capture future capabilities to the Special Tactics community. XLOS devices allow for a remote expendable reporting environmental sensor that enhances AFSOC Special Operation Weather Team's (SOWT) ability to provide timely, accurate, and critical deep battle space weather reconnaissance and intelligence.</p> <p>FY 2022 Plans:</p>	0.259	0.278	0.222	0.000	0.222

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
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<p>- explore and develop future Non Line of sight (XLOS) targeting device capabilities for Special Tactics community.</p> <p>FY 2023 Base Plans: - Will continue to explore and develop future Non Line of sight (XLOS) targeting device capabilities for Special Tactics community.</p> <p>FY 2023 OCO Plans: .</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Current FY23 funding, slight decrease in overall budget, however funding allows for exploration and development to help capture future capabilities to the Special Tactics community.</p>					
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<p>Title: Machine-to-Machine (M2M) Software Development</p> <p>Description: This program is a Modern Software Development Program (MSDP). The software acquisition uses a modern software development methodology and is not primarily in sustainment. It has no objective system and will use iterative development across the project's lifecycles. A suite of map-centric software applications that enables M2M transfer of precision targeting, information management, C4ISR (Command, Control Communications, Computers, Intelligence, Surveillance, and Reconnaissance), and Situational Awareness (SA) information. Provides the Special Warfare ST operators the ability to find, fix, track, target, and engage the enemy which greatly reduces the kill chain and drastically decreases the possibility of fratricide by enhancing the operator's SA on the battlefield.</p> <p>FY 2022 Plans: - explore requirements to address future FoS capability gaps. - Continue research and developmental efforts to support requirements in BAO FoS CDD, which includes but is not limited to Assault Zones, Fires, Weather, Personnel Recovery, and Enabling Capabilities.</p> <p>FY 2023 Base Plans: - Will continue to explore requirements to address future FoS capability gaps. - Will continue research and developmental efforts to support requirements in BAO FoS CDD, which includes but is not limited to Assault Zones, Fires, Weather, Personnel Recovery, and Enabling Capabilities.</p> <p>FY 2023 OCO Plans:</p>	5.399	4.594	4.475	0.000	4.475
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
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<i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> FY23 funding allows for the development to continue with the M2M effort for the Special Tactics CDD.					
Accomplishments/Planned Programs Subtotals	7.457	6.640	6.297	0.000	6.297

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023 Base</u>	<u>FY 2023 OCO</u>	<u>FY 2023 Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• OPAF 03 Line Item 837100: <i>Tactical C-E Equipment</i>	29.021	38.136	19.054	-	19.054	25.310	25.779	26.322	26.857	Continuing	Continuing
• OPAF 04 Line Item 842990: <i>Personal Safety and Rescue Equipment</i>	2.502	21.647	2.339	-	2.339	2.381	2.425	2.477	2.528	Continuing	Continuing

Remarks

E. Acquisition Strategy
Special Warfare Acquisition Growth and Refresh (SWAGR) awarded a contract in FY16 to complete M2M software development. In FY20 this contract was extended to FY22, the plan is to compete a new M2M contract and award during FY22. This effort will include system engineering, design, integration, and fielding support for M2M software. Due to the rapidly changing threat environment, the acquisition program manager has the authority to redirect funding as necessary to meet current slated and emerging requirements. The above efforts may change based on the need to support current Air Force mission requirements. Wright Patterson AFB, OH manages the contract effort.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Air Force												Date: April 2022			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)						Project (Number/Name)					
3600 / 7				PE 0408011F / <i>Special Tactics / Combat Control</i>						675138 / <i>ST System Development</i>					
Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Human Machine Interface (HMI)	C/Various	Various : Various	-	1.745	Dec 2020	1.442	Dec 2021	1.035	Dec 2022	-		1.035	Continuing	Continuing	-
Line of Sight	SS/ Various	Physical Optics Corporation : Torrance, CA	-	0.002	Nov 2020	0.002	Nov 2021	0.002	Nov 2022	-		0.002	Continuing	Continuing	-
Machine-To-Machine (M2M) Software Development	C/CPFF	General Dynamics IT : Dayton, OH	-	4.419	Feb 2021	3.438	Feb 2022	0.600	Oct 2022	-		0.600	Continuing	Continuing	-
Machine-To-Machine (M2M) Software Development(New Contract)	C/TBD	TBD : TBD	-	-		1.000		3.700	Oct 2022	-		3.700	Continuing	Continuing	-
Subtotal			-	6.166		5.882		5.337		-		5.337	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Agency Support	Various	46 TS : Eglin AFB, FL	-	0.532	Dec 2020	0.380	Dec 2021	0.530	Dec 2022	-		0.530	Continuing	Continuing	-
Subtotal			-	0.532		0.380		0.530		-		0.530	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	Various	Various : Various, NV	-	0.759	Dec 2020	0.378	Dec 2021	0.430	Dec 2022	-		0.430	Continuing	Continuing	-
Subtotal			-	0.759		0.378		0.430		-		0.430	Continuing	Continuing	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Air Force		Date: April 2022
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FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>ST System Development</i>	
Human Machine Interface (HMI)	
Line of Sight	
Machine-To-Machine Software Development	

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force		Date: April 2022
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>ST System Development</i>				
Human Machine Interface (HMI)	1	2021	4	2027
Line of Sight	1	2021	4	2027
Machine-To-Machine Software Development	1	2021	4	2027